

MACROECONOMIC GOALS

Microeconomics and macroeconomics—the two major divisions of economics—have different objectives to be pursued. The key microeconomic goals are the efficient use of resources that are employed and the efficient distribution of output. These two goals of microeconomics are encapsulated as ‘efficiency’ and ‘equity’. But macroeconomic goals are quite different because the overall response of the economy must not match with the individual units. As macroeconomics looks at the whole, its objectives are aggregative in character. In other words, because of different level of aggregation, these two branches of economics focuses on different economic objectives.

1. Macroeconomic Goals:

The macroeconomic goals are the following:

(i) Full employment,

(ii) Price stability,

(iii) Economic growth,

(iv) Balance of payments equilibrium and exchange rate stability, and

(v) Social objectives.

(I) FULL EMPLOYMENT:

Performance of any government is judged in terms of goals of achieving full employment and price stability. These two may be called the key indicators of health of an economy. In other words, modern governments aim at reducing both unemployment and inflation rates.

Unemployment refers to involuntary idleness of mainly labour force and other productive resources. Unemployment (of labour) is closely related to the economy’s aggregate output. Higher the unemployment rate, greater the divergence between actual aggregate output (or GNP/CDP) and potential output. So, one of the objectives of macroeconomic policy is to ensure full employment.

The objective of full employment became uppermost amongst the policymakers in the era of Great Depression when unemployment rate in all the countries except the then socialist country, the USSR, rose to a great height. It may be noted here that a free enterprise capitalist economy always exhibits full employment.

But, Keynes said that the goal of full employment may be a desirable one but impossible to achieve. Full employment, thus, does not mean that nobody is unemployed. Even if 4 or 5 p.c. of the total population remain unemployed, the country is said to be fully employed. Full employment, though theoretically conceivable, is difficult to attain in a market-driven economy. In view of this, full employment objective is often translated into 'high employment' objective. This goal is desirable indeed, but 'how high' should it be? One author has given an answer in the following way; "The goal for high employment should therefore be not to seek an unemployment level of zero, but rather a level of above zero consistent with full employment at which the demand for labour equals the supply of labour. This level is called the natural rate of unemployment."

(II) PRICE STABILITY:

No longer the attainment of full employment is considered as a macroeconomic goal. The emphasis has shifted to price stability. By price stability we must not mean an unchanging price level over time. Not necessarily, price increase is unwelcome, particularly if it is restricted within a reasonable limit. In other words, price fluctuations of a larger degree are always unwelcome.

However, it is difficult again to define the permissible or reasonable rate of inflation. But sustained increase in price level as well as a falling price level produce destabilising effects on the economy. Therefore, one of the objectives of macroeconomic policy is to ensure (relative) price level stability. This goal prevents not only economic fluctuations but also helps in the attainment of a steady growth of an economy.

(III) ECONOMIC GROWTH:

Economic growth in a market economy is never steady. These economies experience ups and downs in their performance. This objective became uppermost in the period following the World War II (1939-45). Economists call such ups and downs in the economic performance as trade cycle/business cycle. In the short run such fluctuations may exhibit depressions or prosperity (boom).

One of the important benchmarks to measure the performance of an economy is the rate of increase in output over a period of time. There are three major sources of economic growth, viz. (i) the growth of the labour force, (ii) capital formation, and (iii) technological progress. A country seeks to achieve higher economic growth over a long period so that the standards of living or the quality of life of people, on an average, improve. It may be noted here that while talking about higher economic growth, we take into account general, social and environmental factors so that the needs of people of both present generations and future generations can be met.

However, promotion of higher economic growth is often hampered by short run fluctuations in aggregate output. In other words, one finds a conflict between the objectives of economic growth and economic stability (in prices). In view of this conflict, it is said that macroeconomic policy should promote economic growth with reasonable price stability.

(IV) BALANCE OF PAYMENTS EQUILIBRIUM AND EXCHANGE RATE STABILITY:

From a macro- economic point of view, one can show that an international transaction differs from domestic transaction in terms of (foreign) currency exchange. Over a period of time, all countries aim at balanced flow of goods, services and assets into and out of the country. Whenever this happens, total international monetary reserves are viewed as stable.

If a country's exports exceed imports, it then experiences a balance of payments surplus or accumulation of reserves, like gold and foreign currency. When the country loses reserves, it experiences balance of payments deficit (or imports exceed exports). However, depletion of reserves reflects the unhealthy performance of an economy and thus creates various problems. That is why every country aims at building substantial volume of foreign exchange reserves.

Anyway, the accumulation of foreign exchange reserves is largely conditioned by the exchange rate the rate at which one currency is exchanged for another currency to carry out international transactions. The foreign exchange rate should be stable as far as possible. This is what one may call it external stability in price.

External instability in prices hampers the smooth flow of goods and services between nations. It also erodes the confidence of currency. However, maintenance of external stability is no longer considered as the macroeconomic policy objective as well as macroeconomic policy instrument.

It is, however, because of growing inter- connectedness and interdependence between different nations in the globalised world, the task of fulfilling this macroeconomic policy objective has become more problematic.

(V) SOCIAL OBJECTIVES:

The list of objectives that we have referred here is by no means an exhaustive one; one can add more in the list. Even then we have incorporated the major ones.

Macroeconomic policy is also used to attain some social ends or social welfare. This means that income distribution needs to be more fair and equitable. In a capitalist market-based society some people get more than others. In order to ensure social justice, policymakers use macroeconomic policy instruments. We can add another social objective in our list. This is the

goal of economic freedom. This is characterised by the right of taking economic decisions by any individual (rich or poor, high caste or low caste).

2. Macroeconomic Policy Instruments:

As our macroeconomic goals are not typically confined to “full employment”, “price stability”, “rapid growth”, “BOP equilibrium and stability in foreign exchange rate”, so our macroeconomic policy instruments include monetary policy, fiscal policy, income policy in a narrow sense. But, in a broader sense, these instruments should include policies relating to labour, tariff, agriculture, anti-monopoly and other relevant ones that influence the macroeconomic goals of a country. Confining our attention in a restricted way we intend to consider two types of policy instruments the two “giants of the industry” monetary (credit) policy and fiscal (budgetary) policy. These two policies are employed toward altering aggregate demand so as to bring about a change in aggregate output (GNP/GDP) and prices, wages and interest rates, etc., throughout the economy.

Monetary policy attempts to stabilise aggregate demand in the economy by influencing the availability or price of money, i.e., the rate of interest, in an economy.

Monetary policy may be defined as a policy employing the central bank’s control of the supply of money as an instrument for achieving the macroeconomic goals.

Fiscal policy, on the other hand, aims at influencing aggregate demand by altering tax-expenditure-debt programme of the government. The credit for using this kind of fiscal policy in the 1930s goes to J.M. Keynes who discredited the monetary policy as a means of attaining some of the macro- economic goals—such as the goal of full employment. As fiscal policy has come into scrutiny in terms of its effectiveness in achieving the desired macroeconomic objectives, the same is true about the monetary policy. One can see several rounds of ups and downs in the effectiveness of both these policy instruments consequent upon criticisms and counter- criticisms in their theoretical foundations. It may be pointed out here that as there are conflicts among different macroeconomic goals, policymakers are in a dilemma in the sense that neither of the policies can achieve desired goals. Hence the need for additional policy measures like income policy, price control, etc. Further, while the objectives represent economic, social and political value judgements they do not normally enter the mainstream economic analysis. Ultimately, policymakers and bureaucrats are blamed as troubleshooters.

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Introduction:

National income is an uncertain term which is used interchangeably with national dividend, national output and national expenditure. On this basis, national income has been defined in a number of ways. In common parlance, national income means the total value of goods and services produced annually in a country. In other words, the total amount of income accruing to a country from economic activities in a year's time is known as national income. It includes payments made to all resources in the form of wages, interest, rent and profits.

1. DEFINITIONS OF NATIONAL INCOME:

The definitions of national income can be grouped into two classes: One, the traditional definitions advanced by Marshall, Pigou and Fisher; and two, modern definitions.

1. The Marshallian Definition:

According to Marshall: "The **labour and capital** of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend." In this definition, the word 'net' refers to deductions from the gross national income in respect of depreciation and wearing out of machines. And to this, must be added income from abroad.

2. The Pigouvian Definition:

A.C. Pigou has in his definition of national income included that income which can be measured in terms of money. In the words of Pigou, "National income is that part of objective income of the community, including of course income derived from abroad which can be measured in money." This definition is better than the Marshallian definition. It has proved to be more practical also. While calculating the national income now-a-days, estimates are prepared in accordance with the two criteria laid down in this definition. First, avoiding double counting, the goods and services which can be measured in money are included in national income. Second, income received on account of investment in foreign countries is included in national income.

3. Fisher's Definition:

Fisher adopted 'consumption' as the criterion of national income whereas Marshall and Pigou regarded it to be production. According to Fisher, "The National dividend or income consists solely of services as received by ultimate consumers, whether from their material or from the human environments. Thus, a piano, or an overcoat made for me this year is not a part of this year's income, but an addition to the capital. Only the services rendered to me during this year

by these things are income.” Fisher’s definition is considered to be better than that of Marshall or Pigou, because Fisher’s definition provides an adequate concept of economic welfare which is dependent on consumption and consumption represents our standard of living.

4. Modern Definitions:

From the modern point of view, Simon Kuznets has defined national income as “the net output of commodities and services flowing during the year from the country’s productive system in the hands of the ultimate consumers.” On the other hand, in one of the reports of United Nations, national income has been defined on the basis of the systems of estimating national income, as net national product, as addition to the shares of different factors, and as net national expenditure in a country in a year’s time. In practice, while estimating national income, any of these three definitions may be adopted, because the same national income would be derived, if different items were correctly included in the estimate. There are a number of concepts pertaining to national income and methods of measurement relating to them.

2. CONCEPTS OF NATIONAL INCOME:

(A) Gross Domestic Product (GDP):

GDP is the total value of goods and services produced within the country during a year. This is calculated at market prices and is known as GDP at market prices. Dernberg defines GDP at market price as “the market value of the output of final goods and services produced in the domestic territory of a country during an accounting year.”

There are three different ways to measure GDP:

Product Method, Income Method and Expenditure Method.

These three methods of calculating GDP yield the same result because National Product = National Income = National Expenditure.

1. The Product Method:

In this method, the value of all goods and services produced in different industries during the year is added up. This is also known as the value added method to GDP or GDP at factor cost by industry of origin. The following items are included in India in this: agriculture and allied services; mining; manufacturing, construction, electricity, gas and water supply; transport, communication and trade; banking and insurance, real estates and ownership of dwellings and business services; and public administration and defense and other services (or government services). In other words, it is the sum of gross value added.

2. The Income Method:

The people of a country who produce GDP during a year receive incomes from their work. Thus GDP by income method is the sum of all factor incomes: Wages and Salaries (compensation of employees) + Rent + Interest + Profit.

3. Expenditure Method:

This method focuses on goods and services produced within the country during one year.

GDP by expenditure method includes:

- (1) Consumer expenditure on services and durable and non-durable goods (C),
- (2) Investment in fixed capital such as residential and non-residential building, machinery, and inventories (I),
- (3) Government expenditure on final goods and services (G),
- (4) Export of goods and services produced by the people of country (X),
- (5) Less imports (M). That part of consumption, investment and government expenditure which is spent on imports is subtracted from GDP. Similarly, any imported component, such as raw materials, which is used in the manufacture of export goods, is also excluded.

Thus GDP by expenditure method at market prices = $C + I + G + (X - M)$, where $(X - M)$ is net export which can be positive or negative.

(B) GDP at Factor Cost:

GDP at factor cost is the sum of net value added by all producers within the country. Since the net value added gets distributed as income to the owners of factors of production, GDP is the sum of domestic factor incomes and fixed capital consumption (or depreciation).

Thus GDP at Factor Cost = Net value added + Depreciation.

GDP at factor cost includes:

- (i) Compensation of employees i.e., wages, salaries, etc.
- (ii) Operating surplus which is the business profit of both incorporated and unincorporated firms. [Operating Surplus = Gross Value Added at Factor Cost—Compensation of Employees—Depreciation]
- (iii) Mixed Income of Self- employed.

Conceptually, GDP at factor cost and GDP at market price must be identical/This is because the factor cost (payments to factors) of producing goods must equal the final value of goods and services at market prices. However, the market value of goods and services is different from the earnings of the factors of production. In GDP at market price are included indirect taxes and are excluded subsidies by the government. Therefore, in order to arrive at GDP at factor cost, indirect taxes are subtracted and subsidies are added to GDP at market price. Thus, $\text{GDP at Factor Cost} = \text{GDP at Market Price} - \text{Indirect Taxes} + \text{Subsidies}$.

(C) Net Domestic Product (NDP):

NDP is the value of net output of the economy during the year. Some of the country's capital equipment wears out or becomes obsolete each year during the production process. The value of this capital consumption is some percentage of gross investment which is deducted from GDP. Thus Net Domestic Product = GDP at Factor Cost – Depreciation.

(D) Nominal and Real GDP:

When GDP is measured on the basis of current price, it is called GDP at current prices or nominal GDP. On the other hand, when GDP is calculated on the basis of fixed prices in some year, it is called GDP at constant prices or real GDP. Nominal GDP is the value of goods and services produced in a year and measured in terms of rupees (money) at current (market) prices. In comparing one year with another, we are faced with the problem that the rupee is not a stable measure of purchasing power. GDP may rise a great deal in a year, not because the economy has been growing rapidly but because of rise in prices (or inflation). On the contrary, GDP may increase as a result of fall in prices in a year but actually it may be less as compared to the last year. In both 5 cases, GDP does not show the real state of the economy. To rectify the underestimation and overestimation of GDP, we need a measure that adjusts for rising and falling prices. This can be done by measuring GDP at constant prices which is called real GDP. To find out the real GDP, a base year is chosen when the general price level is normal, i.e., it is neither too high nor too low. The prices are set to 100 (or 1) in the base year.

Now the general price level of the year for which real GDP is to be calculated is related to the base year on the basis of the following formula which is called the deflator index:

$$\text{Real GDP} = \frac{\text{GDP for the Current Year}}{\text{Current Year Index}} \times \frac{\text{Base Year (=100)}}{\text{Current Year Index}}$$

Suppose 2011-12 is the base year and GDP for 2009-2010 is Rs. 6, 00,000 crores and the price index for this year is 300.

Thus, Real GDP for 2009-2010 = Rs. 6, 00,000 x 100/300 = Rs. 2, 00,000 crores

(E) GDP Deflator:

GDP deflator is an index of price changes of goods and services included in GDP. It is a price index which is calculated by dividing the nominal GDP in a given year by the real GDP for the same year and multiplying it by 100. Thus,

$$\text{GDP Deflator} = \frac{\text{Nominal (or Current Prices) GDP}}{\text{Real (or Constant Prices) GDP}} \times 100$$

$$\text{For example, GDP Deflator in 1997-98} = \frac{1426.7 \text{ th. crores}}{1049.2 \text{ th. crores at } 1993-94} \times 100 = 135.9$$

It shows that at constant prices (1993-94), GDP in 1997-98 increased by 135.9% due to inflation (or rise in prices) from Rs. 1049.2 thousand crores in 1993-94 to Rs. 1426.7 thousand crores in 1997-98.

(F) Gross National Product (GNP):

GNP is the total measure of the flow of goods and services at market value resulting from current production during a year in a country, including net income from abroad.

GNP includes four types of final goods and services:

- (1) Consumers' goods and services to satisfy the immediate wants of the people;
- (2) Gross private domestic investment in capital goods consisting of fixed capital formation, residential construction and inventories of finished and unfinished goods;
- (3) Goods and services produced by the government; and

(4) Net exports of goods and services, i.e., the difference between value of exports and imports of goods and services, known as net income from abroad.

In this concept of GNP, there are certain factors that have to be taken into consideration: First, GNP is the measure of money, in which all kinds of goods and services produced in a country during one year are measured in terms of money at current prices and then added together. But in this manner, due to an increase or decrease in the prices, the GNP shows a rise or decline, which may not be real. To guard against erring on this account, a particular year (say for instance 2011-12) when prices be normal, is taken as the base year and the GNP is adjusted in accordance with the index number for that year. This will be known as GNP at 2011-12 prices or at constant prices.

Second, in estimating GNP of the economy, the market price of only the final products should be taken into account. Many of the products pass through a number of stages before they are ultimately purchased by consumers. If those products were counted at every stage, they would be included many a time in the national product. Consequently, the GNP would increase too much. To avoid double counting, therefore, only the final products and not the intermediary goods should be taken into account. Third, goods and services rendered free of charge are not included in the GNP, because it is not possible to have a correct estimate of their market price. For example, the bringing up of a child by the mother, imparting instructions to his son by a teacher, recitals to his friends by a musician, etc. Fourth, the transactions which do not arise from the produce of current year or which do not contribute in any way to production are not included in the GNP. The sale and purchase of old goods, and of shares, bonds and assets of existing companies are not included in GNP because these do not make any addition to the national product, and the goods are simply transferred.

Fifth, the payments received under social security, e.g., unemployment insurance allowance, old age pension, and interest on public loans are also not included in GNP, because the recipients do not provide any service in lieu of them. But the depreciation of machines, plants and other capital goods is not deducted from GNP.

Sixth, the profits earned or losses incurred on account of changes in capital assets as a result of fluctuations in market prices are not included in the GNP if they are not responsible for current production or economic activity.

For example, if the price of a house or a piece of land increases due to inflation, the profit earned by selling it will not be a part of GNP. But if, during the current year, a portion of a house is constructed anew, the increase in the value of the house (after subtracting the cost of the newly constructed portion) will be included in the GNP. Similarly, variations in the value of assets, that can be ascertained beforehand and are insured against flood or fire, are not included in the GNP.

Last, the income earned through illegal activities is not included in the GNP. Although the goods sold in the black market are priced and fulfill the needs of the people, but as they are not useful from the social point of view, the income received from their sale and purchase is always excluded from the GNP. There are two main reasons for this. One, it is not known whether these things were produced during the current year or the preceding years. Two, many of these goods are foreign made and smuggled and hence not included in the GNP.

Three Approaches to GNP:

After having studied the fundamental constituents of GNP, it is essential to know how it is estimated. Three approaches are employed for this purpose. One, the income method to GNP; two, the expenditure method to GNP and three, the value added method to GNP. Since gross income equals gross expenditure, GNP estimated by all these methods would be the same with appropriate adjustments.

1. Income Method to GNP:

The income method to GNP consists of the remuneration paid in terms of money to the factors of production annually in a country.

Thus GNP is the sum total of the following items:

(i) Wages and salaries:

Under this head are included all forms of wages and salaries earned through productive activities by workers and entrepreneurs. It includes all sums received or deposited during a year by way of all types of contributions like overtime, commission, provident fund, insurance, etc.

(ii) Rents:

Total rent includes the rents of land, shop, house, factory, etc. and the estimated rents of all such assets as are used by the owners themselves.

(iii) Interest:

Under interest comes the income by way of interest received by the individual of a country from different sources. To this is added, the estimated interest on that private capital which is invested and not borrowed by the businessman in his personal business. But the interest received on governmental loans has to be excluded, because it is a mere transfer of national income.

(iv) Dividends:

Dividends earned by the shareholders from companies are included in the GNP.

(v) Undistributed corporate profits:

Profits which are not distributed by companies and are retained by them are included in the GNP.

(vi) Mixed incomes:

These include profits of unincorporated business, self-employed persons and partnerships. They form part of GNP.

(vii) Direct taxes:

Taxes levied on individuals, corporations and other businesses are included in the GNP.

(viii) Indirect taxes:

The government levies a number of indirect taxes, like excise duties and sales tax.

These taxes are included in the price of commodities. But revenue from these goes to the government treasury and not to the factors of production. Therefore, the income due to such taxes is added to the GNP.

(ix) Depreciation:

Every corporation makes allowance for expenditure on wearing out and depreciation of machines, plants and other capital equipment. Since this sum also is not a part of the income received by the factors of production, it is, therefore, also included in the GNP.

(x) Net income earned from abroad:

This is the difference between the value of exports of goods and services and the value of imports of goods and services. If this difference is positive, it is added to the GNP and if it is negative, it is deducted from the GNP.

Thus GNP according to the Income Method = Wages and Salaries + Rents + Interest + Dividends + Undistributed Corporate Profits + Mixed Income + Direct Taxes + Indirect Taxes + Depreciation + Net Income from abroad.

2. Expenditure Method to GNP:

From the expenditure view point, GNP is the sum total of expenditure incurred on goods and services during one year in a country.

It includes the following items:

(i) Private consumption expenditure:

It includes all types of expenditure on personal consumption by the individuals of a country. It comprises expenses on durable goods like watch, bicycle, radio, etc., expenditure on single-used consumers' goods like milk, bread, ghee, clothes, etc., as also the expenditure incurred on services of all kinds like fees for school, doctor, lawyer and transport. All these are taken as final goods.

(ii) Gross domestic private investment:

Under this comes the expenditure incurred by private enterprise on new investment and on replacement of old capital. It includes expenditure on house construction, factory- buildings, and all types of machinery, plants and capital equipment. In particular, the increase or decrease in inventory is added to or subtracted from it. The inventory includes produced but unsold manufactured and semi-manufactured goods during the year and the stocks of raw materials, which have to be accounted for in GNP. It does not take into account the financial exchange of shares and stocks because their sale and purchase is not real investment. But depreciation is added.

(iii) Net foreign investment:

It means the difference between exports and imports or export surplus. Every country exports to or imports from certain foreign countries. The imported goods are not produced within the country and hence cannot be included in national income, but the exported goods are manufactured within the country. Therefore, the difference of value between exports (X) and imports (M), whether positive or negative, is included in the GNP.

(iv) Government expenditure on goods and services:

The expenditure incurred by the government on goods and services is a part of the GNP. Central, state or local governments spend a lot on their employees, police and army. To run the offices, the governments have also to spend on contingencies which include paper, pen, pencil and various types of stationery, cloth, furniture, cars, etc. It also includes the expenditure on government enterprises. But expenditure on transfer payments is not added, because these payments are not made in exchange for goods and services produced during the current year.

Thus GNP according to the Expenditure Method = Private Consumption Expenditure (C) + Gross Domestic Private Investment (I) + Net Foreign Investment (X-M) + Government Expenditure on Goods and Services (G) = C + I + (X-M) + G. As already pointed out above, GNP estimated by either the income or the expenditure method would work out to be the same, if all the items are correctly calculated.

3. Value Added Method to GNP:

Another method of measuring GNP is by value added. In calculating GNP, the money value of final goods and services produced at current prices during a year is taken into account. This is one of the ways to avoid double counting. But it is difficult to distinguish properly between a final product and an intermediate product. For instance, raw materials, semi-finished products, fuels and services, etc. are sold as inputs by one industry to the other. They may be final goods for one industry and intermediate for others. So, to avoid duplication, the value of intermediate products used in manufacturing final products must be subtracted from the value of total output of each industry in the economy. Thus, the difference between the value of material outputs and inputs at each stage of production is called the value added. If all such differences are added up for all industries in the economy, we arrive at the GNP by value added. GNP by value added = Gross value added + net income from abroad. Its calculation is shown in Tables 1, 2 and 3.

Table 1 is constructed on the supposition that the entire economy for purposes of total production consists of three sectors. They are agriculture, manufacturing, and others, consisting of the tertiary sector.

Out of the value of total output of each sector is deducted the value of its intermediate purchases (or primary inputs) to arrive at the value added for the entire economy. Thus the value of total output of the entire economy as per Table 1, is Rs. 155 crores and the value of its primary inputs comes to Rs. 80 crores. Thus the GDP by value added is Rs. 75 crores (Rs. 155 minus Rs. 80 crores).

TABLE 1 : GDP BY VALUE ADDED

<i>(Rs. crores)</i>			
Industry	Total Output	Intermediate Purchases	Value Added
(1)	(2)	(3)	(4) = (2-3)
1. Agriculture	30	10	20
2. Manufacturing	70	45	25
3. Others	55	25	30
Total	155	80	75

The total value added equals the value of gross domestic product of the economy. Out of this value added, the major portion goes in the form wages and salaries, rent, interest and profits, a small portion goes to the government as indirect taxes and the remaining amount is meant for depreciation. This is shown in Table 3. Thus we find that the total gross value added of an economy equals the value of its gross domestic product. If depreciation is deducted from the gross value added, we have net value added which comes to Rs. 67 crores (Rs. 75 minus Rs. 8 crores). This is nothing but net domestic product at market prices. Again, if indirect taxes (Rs. 7 crores) are deducted from the net domestic product of Rs. 67 crores, we get Rs. 60 crores as the

net value added at factor cost which is equivalent to net domestic product at factor cost. This is illustrated in Table 2.

TABLE 2
VALUE ADDED AT FACTOR COST
(Rs. Crores)

1. Market Value of output	155
2. Less: cost of intermediate Goods	80
3. Gross value added	75
4. Less: depreciation	8
5. Net value added or domestic product at market prices	67
6. Less: indirect taxes	7
7. Net value added at factor cost	60

Net value added at factor cost is equal to the net domestic product at factor cost, as given by the total of items 1 to 4 of Table 2 (Rs. 45+3+4+8 crores=Rs. 60 crores). By adding indirect taxes (Rs 7 crores) and depreciation (Rs 8 crores), we get gross value added or GDP which comes to Rs 75 crores. If we add net income received from abroad to the gross value added, this gives -us, gross national income. Suppose net income from abroad is Rs. 5 crores. Then the gross national income is Rs. 80 crores (Rs. 75 crores + Rs. 5 crores) as shown in Table 3.

TABLE 3 : GROSS DOMESTIC PRODUCT
(Rs Crores)

1. Wages and salaries	45
2. Income from rent	3
3. Net interest	4
4. Profits of companies	8
Net Value Added or NDP	60
5. Indirect taxes	+7
6. Depreciation	+8
Gross Value Added or GDP	75
7. Net income from abroad	+5
Gross National Income	80

It's Importance:

The value added method for measuring national income is more realistic than the product and income methods because it avoids the problem of double counting by excluding the value of intermediate products. Thus this method establishes the importance of intermediate products in the national economy. Second, by studying the national income accounts relating to value added, the contribution of each production sector to the value of the GNP can be found out. For instance, it can tell us whether agriculture is contributing more or the share of manufacturing is falling, or of the tertiary sector is increasing in the current year as compared to some previous years. Third, this method is highly useful because "it provides a means of checking the GNP estimates obtained by summing the various types of commodity purchases."

It's Difficulties:

However, difficulties arise in the calculation of value added in the case of certain public services like police, military, health, education, etc. which cannot be estimated accurately in money

terms. Similarly, it is difficult to estimate the contribution made to value added by profits earned on irrigation and power projects.

(G) GNP at Market Prices:

When we multiply the total output produced in one year by their market prices prevalent during that year in a country, we get the Gross National Product at market prices. Thus GNP at market prices means the gross value of final goods and services produced annually in a country plus net income from abroad. It includes the gross value of output of all items from (1) to (4) mentioned under GNP. $GNP \text{ at Market Prices} = GDP \text{ at Market Prices} + \text{Net Income from Abroad}$.

(H) GNP at Factor Cost:

GNP at factor cost is the sum of the money value of the income produced by and accruing to the various factors of production in one year in a country. It includes all items mentioned above under income method to GNP less indirect taxes. **GNP at market prices always includes indirect taxes levied by the government on goods which raise their prices. But GNP at factor cost is the income which the factors of production receive in return for their services alone.** It is the cost of production. Thus GNP at market prices is always higher than GNP at factor cost. Therefore, in order to arrive at GNP at factor cost, we deduct indirect taxes from GNP at market prices. Again, it often happens that the cost of production of a commodity to the producer is higher than a price of a similar commodity in the market.

In order to protect such producers, the government helps them by granting monetary help in the form of a subsidy equal to the difference between the market price and the cost of production of the commodity. As a result, the price of the commodity to the producer is reduced and equals the market price of similar commodity. For example if the market price of rice is Rs. 3 per kg but it costs the producers in certain areas Rs. 3.50. The government gives a subsidy of 50 paise per kg to them in order to meet their cost of production. Thus in order to arrive at GNP at factor cost, subsidies are added to GNP at market prices.

$GNP \text{ at Factor Cost} = GNP \text{ at Market Prices} - \text{Indirect Taxes} + \text{Subsidies}$.

(I) Net National Product (NNP):

NNP includes the value of total output of consumption goods and investment goods. But the process of production uses up a certain amount of fixed capital. Some fixed equipment wears out, its other components are damaged or destroyed, and still others are rendered obsolete through technological changes. All this process is termed depreciation or capital consumption allowance. In order to arrive at NNP, we deduct depreciation from GNP. The word 'net' refers to the exclusion of that part of total output which represents depreciation. So $NNP = GNP - \text{Depreciation}$.

(J) NNP at Market Prices:

Net National Product at market prices is the net value of final goods and services evaluated at market prices in the course of one year in a country. If we deduct depreciation from GNP at market prices, we get NNP at market prices. So $NNP \text{ at Market Prices} = GNP \text{ at Market Prices} - \text{Depreciation}$.

(K) NNP at Factor Cost:

Net National Product at factor cost is the net output evaluated at factor prices. It includes income earned by factors of production through participation in the production process such as wages and salaries, rents, profits, etc. It is also called National Income. This measure differs from NNP at market prices in that indirect taxes are deducted and subsidies are added to NNP at market prices in order to arrive at NNP at factor cost. Thus

NNP at Factor Cost = NNP at Market Prices – Indirect taxes+ Subsidies

= GNP at Market Prices – Depreciation – Indirect taxes + Subsidies.

= National Income.

Normally, NNP at market prices is higher than NNP at factor cost because indirect taxes exceed government subsidies. However, NNP at market prices can be less than NNP at factor cost when government subsidies exceed indirect taxes.

(L) Domestic Income:

Income generated (or earned) by factors of production within the country from its own resources is called domestic income or domestic product.

Domestic income includes:

(i) Wages and salaries, (ii) rents, including imputed house rents, (iii) interest, (iv) dividends, (v) undistributed corporate profits, including surpluses of public undertakings, (vi) mixed incomes consisting of profits of unincorporated firms, self- employed persons, partnerships, etc., and (vii) direct taxes. Since domestic income does not include income earned from abroad, it can also be shown as: Domestic Income = National Income-Net income earned from abroad. Thus the difference between domestic income and national income is the net income earned from abroad. **If we add net income from abroad to domestic income, we get national income, i.e., National Income = Domestic Income + Net income earned from abroad.** But the net national income earned from abroad may be positive or negative. If exports exceed import, net income earned from abroad is positive. In this case, national income is greater than domestic income. On the other hand, when imports exceed exports, net income earned from abroad is negative and domestic income is greater than national income.

(M) Private Income:

Private income is income obtained by private individuals from any source, productive or otherwise, and the retained income of corporations. It can be arrived at from NNP at Factor Cost by making certain additions and deductions. The additions include transfer payments such as pensions, unemployment allowances, sickness and other social security benefits, gifts and remittances from abroad, windfall gains from lotteries or from horse racing, and interest on public debt. The deductions include income from government departments as well as surpluses from public undertakings, and employees' contribution to social security schemes like provident funds, life insurance, etc. **Thus Private Income = National Income (or NNP at Factor Cost) + Transfer Payments + Interest on Public Debt — Social Security — Profits and Surpluses of Public Undertakings.**

(N) Personal Income:

Personal income is the total income received by the individuals of a country from all sources before payment of direct taxes in one year. Personal income is never equal to the national income, because the former includes the transfer payments whereas they are not included in national income. Personal income is derived from national income by deducting undistributed corporate profits, profit taxes, and employees' contributions to social security schemes. These three components are excluded from national income because they do not reach individuals. But business and government transfer payments, and transfer payments from abroad in the form of gifts and remittances, windfall gains, and interest on public debt which are a source of income for individuals are added to national income. **Thus Personal Income = National Income – Undistributed Corporate Profits – Profit Taxes – Social Security Contribution + Transfer Payments + Interest on Public Debt.** Personal income differs from private income in that it is less than the latter because it excludes undistributed corporate profits.

Thus Personal Income = Private Income – Undistributed Corporate Profits – Profit Taxes.

(O) Disposable Income:

Disposable income or personal disposable income means the actual income which can be spent on consumption by individuals and families. The whole of the personal income cannot be spent on consumption, because it is the income that accrues before direct taxes have actually been paid. Therefore, in order to obtain disposable income, direct taxes are deducted from personal income. Thus Disposable Income = Personal Income – Direct Taxes. But the whole of disposable income is not spent on consumption and a part of it is saved. Therefore, disposable income is divided into consumption expenditure and savings. Thus Disposable Income = Consumption Expenditure + Savings. If disposable income is to be deducted from national income, we deduct indirect taxes plus subsidies, direct taxes on personal and on business, social security payments, undistributed corporate profits or business savings from it and add transfer payments and net income from abroad to it.

Thus Disposable Income = National Income – Business Savings – Indirect Taxes + Subsidies – Direct Taxes on Persons – Direct Taxes on Business – Social Security Payments + Transfer Payments + Net Income from abroad.

(P) Real Income:

Real income is national income expressed in terms of a general level of prices of a particular year taken as base. National income is the value of goods and services produced as expressed in terms of money at current prices. But it does not indicate the real state of the economy. It is possible that the net national product of goods and services this year might have been less than that of the last year, but owing to an increase in prices, NNP might be higher this year. On the contrary, it is also possible that NNP might have increased but the price level might have fallen, as a result national income would appear to be less than that of the last year. In both the situations, the national income does not depict the real state of the country. To rectify such a mistake, the concept of real income has been evolved. In order to find out the real income of a country, a particular year is taken as the base year when the general price level is neither too high nor too low and the price level for that year is assumed to be 100. Now the general level of prices of the given year for which the national income (real) is to be determined is assessed in accordance with the prices of the base year. For this purpose the following formula is employed.

Real NNP = NNP for the Current Year x Base Year Index (=100) / Current Year Index

(Q) Per Capita Income:

The average income of the people of a country in a particular year is called Per Capita Income for that year. This concept also refers to the measurement of income at current prices and at constant prices. For instance, in order to find out the per capita income for 2001, at current prices, the national income of a country is divided by the population of the country in that year.

$$\text{Per Capita Income for 2001} = \frac{\text{National income for 2001}}{\text{Population in 2001}}$$

Similarly, for the purpose of arriving at the Real Per Capita Income, this very formula is used.

$$\text{Real Per Capita Income for 2001} = \frac{\text{Real national income for 2001}}{\text{Population in 2001}}$$

This concept enables us to know the average income and the standard of living of the people. But it is not very reliable, because in every country due to unequal distribution of national income, a major portion of it goes to the richer sections of the society and thus income received by the common man is lower than the per capita income.

Methods of Measuring National Income:

There are four methods of measuring national income. Which method is to be used depends on the availability of data in a country and the purpose in hand.

(1) Product Method:

According to this method, the total value of final goods and services produced in a country during a year is calculated at market prices. To find out the GNP, the data of all productive activities, such as agricultural products, wood received from forests, minerals received from mines, commodities produced by industries, the contributions to production made by transport, communications, insurance companies, lawyers, doctors, teachers, etc. are collected and assessed at market prices. Only the final goods and services are included and the intermediary goods and services are left out.

(2) Income Method:

According to this method, the net income payments received by all citizens of a country in a particular year are added up, i.e., net incomes that accrue to all factors of production by way of net rents, net wages, net interest and net profits are all added together but incomes received in the form of transfer payments are not included in it. The data pertaining to income are obtained from different sources, for instance, from income tax department in respect of high income groups and in case of workers from their wage bills.

(3) Expenditure Method:

According to this method, the total expenditure incurred by the society in a particular year is added together and includes personal consumption expenditure, net domestic investment, government expenditure on goods and services, and net foreign investment. This concept is based on the assumption that national income equals national expenditure.

(4) Value Added Method:

Another method of measuring national income is the value added by industries. The difference between the value of material outputs and inputs at each stage of production is the value added.

If all such differences are added up for all industries in the economy, we arrive at the gross domestic product.

4. Difficulties or Limitations in Measuring National Income:

There are many conceptual and statistical problems involved in measuring national income by the income method, product method, and expenditure method.

We discuss them separately in the light of the three methods:

(A) Problems in Income Method:

The following problems arise in the computation of National Income by income method:

1. Owner-occupied Houses:

A person who rents a house to another earns rental income, but if he occupies the house himself, will the services of the house-owner be included in national income. The services of the owner-occupied house are included in national income as if the owner sells to himself as a tenant its services. For the purpose of national income accounts, the amount of imputed rent is estimated as the sum for which the owner-occupied house could have been rented. The imputed net rent is calculated as that portion of the amount that would have accrued to the house-owner after deducting all expenses.

2. Self-employed Persons:

Another problem arises with regard to the income of self-employed persons. In their case, it is very difficult to find out the different inputs provided by the owner himself. He might be contributing his capital, land, labour and his abilities in the business. But it is not possible to estimate the value of each factor input to production. So he gets a mixed income consisting of interest, rent, wage and profits for his factor services. This is included in national income.

3. Goods meant for Self-consumption:

In under-developed countries like India, farmers keep a large portion of food and other goods produced on the farm for self-consumption. The problem is whether that part of the produce which is not sold in the market can be included in national income or not. If the farmer were to sell his entire produce in the market, he will have to buy what he needs for self-consumption out of his money income. If, instead he keeps some produce for his self-consumption, it has money value which must be included in national income.

4. Wages and Salaries paid in Kind:

Another problem arises with regard to wages and salaries paid in kind to the employees in the form of free food, lodging, dress and other amenities. Payments in kind by employers are included in national income. This is because the employees would have received money income equal to the value of free food, lodging, etc. from the employer and spent the same in paying for food, lodging, etc.

(B) Problems in Product Method:

The following problems arise in the computation of national income by product method:

1. Services of Housewives:

The estimation of the unpaid services of the housewife in the national income presents a serious difficulty. A housewife renders a number of useful services like preparation of meals, serving, tailoring, mending, washing, cleaning, bringing up children, etc.

She is not paid for them and her services are not including in national income. Such services performed by paid servants are included in national income. The national income is, therefore, underestimated by excluding the services of a housewife.

The reason for the exclusion of her services from national income is that the love and affection of a housewife in performing her domestic work cannot be measured in monetary terms. That is why when the owner of a firm marries his lady secretary, her services are not included in national income when she stops working as a secretary and becomes a housewife.

When a teacher teaches his own children, his work is also not included in national income. Similarly, there are a number of goods and services which are difficult to be assessed in money terms for the reason stated above, such as painting, singing, dancing, etc. as hobbies.

2. Intermediate and Final Goods:

The greatest difficulty in estimating national income by product method is the failure to distinguish properly between intermediate and final goods. There is always the possibility of including a good or service more than once, whereas only final goods are included in national income estimates. This leads to the problem of double counting which leads to the overestimation of national income.

3. Second-hand Goods and Assets:

Another problem arises with regard to the sale and purchase of second-hand goods and assets. We find that old scooters, cars, houses, machinery, etc. are transacted daily in the country. But they are not included in national income because they were counted in the national product in the year they were manufactured. If they are included every time they are bought and sold, national income would increase many times. Similarly, the sale and purchase of old stocks, shares, and bonds of companies are not included in national income because they were included in national income when the companies were started for the first time. Now they are simply financial transactions and represent claims. But the commission or fees charged by the brokers in the repurchase and resale of old shares, bonds, houses, cars or scooters, etc. are included in national income. For these are the payments they receive for their productive services during the year.

4. Illegal Activities:

Income earned through illegal activities like gambling, smuggling, illicit extraction of wine, etc. is not included in national income. Such activities have value and satisfy the wants of the people but they are not considered productive from the point of view of society. But in countries like Nepal and Monaco where gambling is legalised, it is included in national income. Similarly, horse-racing is a legal activity in England and is included in national income.

5. Consumers' Service:

There are a number of persons in society who render services to consumers but they do not produce anything tangible. They are the actors, dancers, doctors, singers, teachers, musicians, lawyers, barbers, etc. The problem arises about the inclusion of their services in national income since they do not produce tangible commodities. But as they satisfy human wants and receive

payments for their services, their services are included as final goods in estimating national income.

6. Capital Gains:

The problem also arises with regard to capital gains. Capital gains arise when a capital asset such as a house, some other property, stocks or shares, etc. is sold at higher price than was paid for it at the time of purchase. Capital gains are excluded from national income because these do not arise from current economic activities. Similarly, capital losses are not taken into account while estimating national income.

7. Inventory Changes:

All inventory changes (or changes in stocks) whether positive or negative are included in national income. The procedure is to take changes in physical units of inventories for the year valued at average current prices paid for them.

The value of changes in inventories may be positive or negative which is added or subtracted from the current production of the firm. Remember, it is the change in inventories and not total inventories for the year that are taken into account in national income estimates.

8. Depreciation:

Depreciation is deducted from GNP in order to arrive at NNP. Thus depreciation lowers the national income. But the problem is of estimating the current depreciated value of, say, a machine, whose expected life is supposed to be thirty years. Firms calculate the depreciation value on the original cost of machines for their expected life. This does not solve the problem because the prices of machines change almost every year.

9. Price Changes:

National income by product method is measured by the value of final goods and services at current market prices. But prices do not remain stable. They rise or fall. When the price level rises, the national income also rises, though the national production might have fallen.

On the contrary, with the fall in the price level, the national income also falls, though the national production might have increased. So price changes do not adequately measure national income. To solve this problem, economists calculate the real national income at a constant price level by the consumer price index.

(C) Problems in Expenditure Method:

The following problems arise in the calculation of national income by expenditure method:

(1) Government Services:

In calculating national income by, expenditure method, the problem of estimating government services arises. Government provides a number of services, such as police and military services, administrative and legal services. Should expenditure on government services be included in national income?

If they are final goods, then only they would be included in national income. On the other hand, if they are used as intermediate goods, meant for further production, they would not be included in national income. There are many divergent views on this issue.

One view is that if police, military, legal and administrative services protect the lives, property and liberty of the people, they are treated as final goods and hence form part of national income. If they help in the smooth functioning of the production process by maintaining peace and security, then they are like intermediate goods that do not enter into national income.

In reality, it is not possible to make a clear demarcation as to which service protects the people and which protects the productive process. Therefore, all such services are regarded as final goods and are included in national income.

(2) Transfer Payments:

There arises the problem of including transfer payments in national income. Government makes payments in the form of pensions, unemployment allowance, subsidies, interest on national debt, etc. These are government expenditures but they are not included in national income because they are paid without adding anything to the production process during the current year.

For instance, pensions and unemployment allowances are paid to individuals by the government without doing any productive work during the year. Subsidies tend to lower the market price of the commodities. Interest on national or public debt is also considered a transfer payment because it is paid by the government to individuals and firms on their past savings without any productive work.

(3) Durable-use Consumers' Goods:

Durable-use consumers' goods also pose a problem. Such durable-use consumers' goods as scooters, cars, fans, TVs, furniture's, etc. are bought in one year but they are used for a number of years. Should they be included under investment expenditure or consumption expenditure in national income estimates? The expenditure on them is regarded as final consumption expenditure because it is not possible to measure their used up value for the subsequent years.

But there is one exception. The expenditure on a new house is regarded as investment expenditure and not consumption expenditure. This is because the rental income or the imputed rent which the house-owner gets is for making investment on the new house. However, expenditure on a car by a household is consumption expenditure. But if he spends the amount for using it as a taxi, it is investment expenditure.

(4) Public Expenditure:

Government spends on police, military, administrative and legal services, parks, street lighting, irrigation, museums, education, public health, roads, canals, buildings, etc. The problem is to find out which expenditure is consumption expenditure and which investment expenditure is.

Expenses on education, museums, public health, police, parks, street lighting, civil and judicial administration are consumption expenditure. Expenses on roads, canals, buildings, etc. are investment expenditure. But expenses on defence equipment are treated as consumption expenditure because they are consumed during a war as they are destroyed or become obsolete. However, all such expenses including the salaries of armed personnel are included in national income.

Importance of National Income Analysis:

The national income data have the following importance:

1. For the Economy:

National income data are of great importance for the economy of a country. These days the national income data are regarded as accounts of the economy, which are known as social accounts. These refer to net national income and net national expenditure, which ultimately equal each other.

Social accounts tell us how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade. Their main constituents are inter-related and each particular account can be used to verify the correctness of any other account.

2. National Policies:

National income data form the basis of national policies such as employment policy, because these figures enable us to know the direction in which the industrial output, investment and savings, etc. change, and proper measures can be adopted to bring the economy to the right path.

3. Economic Planning:

In the present age of planning, the national data are of great importance. For economic planning, it is essential that the data pertaining to a country's gross income, output, saving and consumption from different sources should be available. Without these, planning is not possible.

4. Economic Models:

The economists propound short-run as well as long-run economic models or long-run investment models in which the national income data are very widely used.

5. Research:

The national income data are also made use of by the research scholars of economics. They make use of the various data of the country's input, output, income, saving, consumption, investment, employment, etc., which are obtained from social accounts.

6. Per Capita Income:

National income data are significant for a country's per capita income which reflects the economic welfare of the country. The higher the per capita income, the higher the economic welfare of the country.

7. Distribution of Income:

National income statistics enable us to know about the distribution of income in the country. From the data pertaining to wages, rent, interest and profits, we learn of the disparities in the incomes of different sections of the society. Similarly, the regional distribution of income is revealed.

WHAT IS INDIA'S GDP AND HOW IS IT CALCULATED?

A latest National Sample Survey Organisation (NSSO) report has raised fresh questions over India's gross domestic product (GDP) and national income calculation methodology. According to Mint, which first wrote about it on May 8, 2019, about 38% of companies, which the NSSO surveyed from the MCA-21 database of companies used for calculating GDP, could not be traced or were wrongly classified. Here's a primer:

What is GDP?

Gross Domestic Product or GDP represents the total value of all the final goods and services that are produced within a country's borders within a particular time period, typically a year or a quarter.

How is GDP calculated?

It can be calculated by using three methods—the supply or production method, the income method and the demand or expenditure method and by definition the value of GDP should be identical, irrespective of the method used. This is because one person's or entity's income is another person's spending on expenditure. For instance, what households spend in buying provisions at a local store is the shop owner's income. Likewise, an employee's salary is what his/her company spends. In the final national income calculations income and

How is GDP calculated using the supply or production method?

The monetary value of all products and services generated across the economy will give the country's GDP.

How is it calculated using the income method?

Simply put, adding the earnings of all the people and the income of capital employed would give the GDP of the country.

How is it calculated using the demand or expenditure method?

The government spends money on welfare measures and salaries of its employees. Industry incurs expenditure on investment and wages. Consumers spend money on buying goods and services, or saving. The sum total of spending made by all entities across the economy would give the GDP of the country.

What is real and nominal GDP?

Nominal GDP is calculated at current prices. Real GDP is GDP adjusted for inflation.

What is a "base year"?

The base year of the national accounts is chosen to enable inter-year comparisons. It gives an idea about changes in purchasing power and allows calculation of inflation-adjusted growth estimates.

The new series has changed the base to 2011-12 from 2004-05. Every national accounts dataset gives GDP calculations for two years: 2011-12 and the current year.

When was the new series launched?

A decision to change the GDP calculation method was taken during the UPA-II years. The NDA government launched the first set of data, giving out levels of GDP and growth rates from 2011-12.

What are the main differences in the old and new methods to calculate GDP?

In the previous method, the index of industrial production (IIP) or factory output was the main measure to calculate manufacturing and trading activity. The limitation was, that this only counted volume and did not give an idea about value. For instance, in the old method, the number of motorcycles produced in the plant was counted, as opposed to the motorcycles' value that the plant rolled out.

In the communication sector, telecom subscriber base was used in the old sector as compared to minutes of usage in the new formula.

What's on now?

Previously, the first GDP estimates were based on IIP data. It was updated every two years factoring in data from the Annual Survey of Industries (ASI). ASI only gave out goods' value produced by firms registered under the Factories Act.

Now, the corporate affairs ministry's MCA 21 records, a wide-ranging compilation of balance sheet data of lakhs of firms, is used.

The use of MCA 21 records for national income calculations have brought to light a segment of organised activity, which was earlier, for the most part, invisible. This is the lower end of the corporate segment. These are companies which are not listed in stock exchanges, and were virtually left out of national income calculations.

What is Gross Value Added (GVA)?

The new method adopts a gross value added (GVA)-based approach as compared to a pre-dominantly volume-based calculation previously.

GVA, which is GDP minus taxes, serves as a more realistic proxy to measure changes in the aggregate value of goods and services produced in the economy.

Earlier, the IIP served as the primary metric to gauge manufacturing and trading activity. The problem was, it only counted the number of units produced and did not distinguish, between, say the value of a luxury car and an entry-level hatch-back. It is possible that factory output would have remained stagnant over a period of time, but its value would have multiplied. One can keep selling the same number of cars, but keep improving the quality so the value goes up. An even better example than cars is computers. A purely output-based method would not be able to capture the innovations and the value additions in such products and industrial activity.

The GVA method also factors in value addition and economic action carried out by activities such as marketing. Such activity can be of a very high value in case of large FMCG companies.

What is the latest controversy surrounding the GDP data?

A report showed that a latest survey of the National Sample Survey Organisation (NSSO) titled 'Technical Report on Service Sector Enterprises in India' found around 38% of companies included in the MCA-21 database either untraceable or wrongly classified. This has raised questions whether India has been overestimating its GDP levels and growth.

How has the government responded to this?

The statistics ministry has said an official committee will examine the NSS technical report on services sector enterprises. The ministry said that the issue of coverage, quality and timeliness of the MCA database vis-a-vis the Annual Survey of Industries (ASI) had been discussed in detail in the various meetings of the Advisory Committee on National Accounts Statistics and adopted only thereafter. The Central Statistics Office (CSO) is currently in the process of undertaking the new base revision to 2017-18. The statistics ministry had commissioned the NSSO technical report for this purpose.

What could be the possible reasons for these companies becoming untraceable?

One likely reason could be that many of these untraceable companies could actually be 'shell' or paper companies. One in every three registered company in India is defunct, the government has found out, and as of February 28, 2019 the ministry of corporate affairs (MCA) has struck off 6.2 lakh companies from the official records as part of the plan to crack down on shell or paper companies. Out of the 6.7 lakh companies that were shuttered down, 10,640 companies were liquidated or dissolved; 6.2 lakh companies were declared defunct (and hence struck-off from official records); 22,532 companies were amalgamated or merged with other companies; 10,086 companies were converted to Limited Liability Partnership (LLP) and 4,794 were converted to LLP and dissolved. The 6.22 lakh 'defunct' and struck-off companies accounted for 33% of the 18.6 lakh registered companies as of February 28, 2019.

When is a company's name struck off official records?

Under the section 248 of the Companies Act, 2013, a company's name can be removed from the Registrar of Companies (RoC) if it fails to commence business within one year of its incorporation or is not carrying out operations for three years.

The ongoing move to shutter down such companies is part of a drive to remove entities that do not contribute to an economic activity and are rather a burden on the system. The corporate affairs ministry is also examining companies' data to see if they are involved in tax evasion or money laundering. The ministry of corporate affairs data also showed that nearly two-thirds or 11.9 lakh companies are active. Active companies carry out normal business and trading activities, generating income and meeting the basic requirements such as filing financial statements. Inactive or shuttered companies, therefore, may be one of the reasons why these could be showing up as 'untraceable' in the NSSO's technical report on MCA 21 data.

What has the government said about the likely impact of these untraceable companies on GDP calculations?

The statistics ministry said that “there is no impact on the existing GDP/GVA estimates for the corporate sector as due care is taken to appropriately adjust the corporate filings at the aggregate level based on the paid up capital”. The ministry said that every revision in the estimates of GDP/GVA is based on the data available at the time of the respective release.

What are experts saying on the issue?

There are views on both sides of the fence. While some experts have said that the ‘untraceable’ companies may have led to an overestimation of India’s GDP levels and growth, others have pointed out that the value addition is captured at the level of spending through the expenditure method while calculating GDP and national income. For instance, a company may have set up a shell subsidiary to evade taxes and the later shuttered it down following a government clampdown, but the its value addition and expenses made will get captured at various stages of spending.

What are the other criticisms about GDP estimates using the new method?

One of the biggest criticisms is about the back series that was launched in November 2018. The back series data serves as a link between the old and new formulae. The back series is aimed at calculating/updating national accounts using the new formula to help allow inter-year comparisons and enable better economic forecasting. Owing to the limitations of the availability of data, in some areas either splicing method or ratios observed in the estimates in the base year 2011-12 have been used for the previous years. The big question is: How can you extrapolate MCA 21 data for previous years when the data itself started getting collated only in 2008 and has undergone several rounds of changes in the later years.

Why the criticism?

It was previously estimated that India clocked double-digit growth of 10.3% in 2010-11. This has now been revised to 8.5%, according to the new estimates. Likewise, real or inflation-adjusted GDP growth rates of 9.3%, 9.3% and 9.8% in 2005-06, 2006-07, 2007-08 respectively were revised downwards to 9.9%, 8.1% and 7.7%. According to the new series, GDP growth rate dropped to 3.1% in 2009-10, compared to the previous estimates of 3.9%, mirroring a deeper impact of the global financial crisis of 2008 on the Indian economy than previously thought.

Why the sharp drop in GDP growth rates?

According to the government, several factors that affected primary, secondary and tertiary sectors of the economy were over-reported in the previous estimates. Growth rates in the primary sector fell from 5% in 2005-06 to 2% in 2011-12 against 4.6% in 2005-06 to 4.4% in 2011-12 in the previous estimates. Secondary sector growth rates fell from 10.2% in 2005-06 to 6.6% in 2011-12 in the new series compared to 10.7% and the 8.5% respectively. Tertiary sector growth rates fell from 9.1% in 2005-06 to 5.9% in 2011-12 according to the back series against 10.9% and 6.9% respectively earlier.

Why is there such a big difference?

The difference can also be partly attributed to change in the GDP “deflator” method. GDP deflators are price indices used to calculate inflation-adjusted levels of GDP. In the new estimates, different GDP deflators have been used for different sectors of the economy.

How does GDP data factor in India’s bustling informal and black economy that operates outside regulatory boundaries?

According to officials the GDP series captures it well because of the data from surveys of the household economy covering both assets (through the debt and investment survey), expenditure and establishment activity. Black money is not value addition. It is how much of this should have been assessed to tax and was therefore not paying tax. That is a much more difficult question to answer.

What about the rural economy?

The earlier formula mainly used farm produce as a proxy for calculating agricultural income. The new method has widened the scope for calculating value addition in the agricultural sector. Official statisticians say that livestock data is more widely captured in the new method. For instance, values are now also attached to byproducts of meat including “heads and legs”, “fat” “skin”, “edible offal and glands” of cattle, buffalo, sheep, goat and pig.

How is labour income estimated in GDP calculations?

In the earlier GDP calculation, all labour was treated as equal. The new series has used a concept called “effective labour input”. It assigns different weights are assigned on whether one was an owner, a hired professional or a helper.

What about estimates of value of trading-related services?

The new series uses NSSO’s 2011-12 establishment survey, compared to the 1999 survey data used in the earlier series. The latest survey showed that value addition in trade was significantly lower than what was being projected in the old series, which used extrapolated data from a survey conducted in 1999.

How is income generated by the financial sector estimated?

Official statisticians say the new series has significantly widened the scope of capturing economic activity and value addition in the financial sector. The earlier series was limited to a few mutual funds (primarily UTI) and estimates for the Non-Government Non-Banking Finance Companies as compiled by RBI. In the new series, the coverage of financial sector has been expanded by including stock brokers, stock exchanges, asset management companies, mutual funds and pension funds, as well as the regulatory bodies, SEBI, PFRDA and IRDA.

What about income estimates of local bodies and autonomous institutions?

Economic activity of local bodies and autonomous institutions were earlier estimated on the basis of information received for seven autonomous institutions and local bodies of only four States – Delhi, Himachal Pradesh, Meghalaya and Uttar Pradesh. The new series has far wider universe that captures 60% of the grants/transfers provided to these institutions.

When is the GDP data released and how often is it revised?

The CSO releases the quarterly GDP estimates with a two month lag every year. It also releases annual advance estimates in first week of January and later in the last week of February. National accounts estimates go through multiple revisions through three years based on updated data across sectors. The first provisional annual estimates are released on the last working day of May. So, for 2018-19, the provisional GDP estimates will be released on May 31, 2019. It will be later revised with fresh data and the first revised estimates for 2018-19 will be released on the last working day of January 2020. It will again be revised with more updated data and the second revised estimates will be released on the last working day of January 2021.

Till the release of provisional estimates in any year, the estimates are based on indicators such as IIP, wholesale price indices, core sector data on steel, cement, electricity, revenue expenditure, GST data, trade data on imports and exports, consumer prices, among others. The estimates based on indicators are reworked when the corresponding data source becomes available. By the time of the Third Revised Estimate, the coverage and completeness in the data sources are almost final and no further revision takes place.